

## INCREASED TRANSMISSION CAPACITY FOR A FIBER-OPTIC LINK

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[0001] This application is a divisional of U.S. Application Serial No. 09/824,433, <sup>now patent number 6,643,471</sup> filed April 2, 2001, <sup>^</sup>entitled "Increased Transmission Capacity for a Fiber-Optic Link", which is incorporated herein by reference.

### TECHNICAL FIELD

[0002] The present invention relates generally to the field of telecommunications and, in particular, to increased transmission capacity for a fiber-optic link.

### BACKGROUND

[0003] Telecommunications systems transmit data, e.g., voice video and other data, between equipment at various locations. This equipment includes user equipment, access equipment, switches, and other conventional telecommunications equipment. Telecommunications systems typically include a variety of transmission medium to transmit data to and from the equipment. For example, some systems transmit data over one or more of coaxial cables, fiber optic cables, or other appropriate medium.

[0004] Over time, service providers increase the capacity of their systems to keep up with an ever-increasing demand for access to the system. One typical technique for increasing the capacity of the system is to increase the speed at which data is transmitted over the system. Unfortunately, when fiber-optic cables are used to transmit data, other aspects of the transmission medium limit the effectiveness of the increased speed. For example, the "dispersion" effect limits the ability of the service provider to increase the speed of data carried over the fiber-optic cable. The dispersion effect occurs when the light transmitted over the cable broadens out to the point where the information carried by the light is corrupted. To compensate for this effect, conventionally, expensive dispersion compensation circuitry is included in the system. However, in some applications, the expense of this additional circuitry outweighs the benefits of the increased speed of transmission.